

WHAT IS CLAIMED IS:

1. A lead forming apparatus for a semiconductor device, comprising:

5 a holder which holds a semiconductor device to be formed, the semiconductor device having leads extending from a package thereof;

two die assemblies set in parallel and each comprising a pair of top and bottom dies to be matched with each other, wherein the top and bottom dies in said two die assemblies
10 are positioned to interpose the leads of the semiconductor device held on said holder and form the leads between them;

a mover which changes a relative distance between said two die assemblies.

2. The lead forming apparatus according to claim 1,
15 wherein said top die comprises a punch to be in contact with the leads and a roller, and said bottom die comprises a die to be in contact with the leads and a cam to be in contact with the roller.

3. The lead forming apparatus according to claim 2,
20 wherein said cam comprises a first block to be in contact with said roller, a second block having a slope to be engaged with the first block, and an adjuster which moves the second block relative to the first block, whereby the first block can be moved on the slope of the second block.

25 4. The lead forming apparatus according to claim 2,

wherein said die comprises a first block to be in contact with the leads, a second block having a slope to be engaged with the first block, and an adjuster which moves the second block relative to the first block, wherein the first block can be moved on the slope of the second block.

5 5. The lead forming apparatus according to claim 1, wherein said die comprises a first block to be in contact with the leads at distal ends thereof, a second block to be in contact with the leads at proximal ends thereof, and an
10 adjuster which makes the second block contact with the leads to change a bending angle of the leads.

6. The lead forming apparatus according to claim 1, wherein said holder comprises a first block to support a package of the semiconductor device, a second block having
15 a slope to engage with the first block, and an adjuster to move the second block relative to the first block, wherein the first block can be moved on the slope of the second block.

7. The lead forming apparatus according to claim 1, wherein said holder comprises two parts fixed to said
20 bottom dies, each of the two parts supporting a package of the semiconductor device.

8. The lead forming apparatus according to claim 1, wherein said holder comprises a pair of two parts
25 supporting a package of the semiconductor device, and a

shifter which shifts relative positions of the two parts.

9. The lead forming apparatus according to claim 1,
further comprising a guide roller which holds one of said
top dies in the two die assembly and allows them to
5 decrease or increase relative distance between them.

10. The lead forming apparatus according to claim 1,
further comprising a sensor which detects relative distance
between the two die assemblies, and a controller which
drives said mover such that the relative distance detected
10 by said sensor has a predetermined value.

11. A lead forming system comprising:

two units of a lead forming apparatus for a
semiconductor device, and

a carrier which takes a semiconductor device formed by
15 one of the units, rotates the semiconductor device by 90
degrees, and carries the rotated semiconductor device to
the other of the units;

wherein said lead forming apparatus comprising:

a holder which holds a semiconductor device to be
20 formed, the semiconductor device having leads extending
from a package thereof;

two die assemblies set in parallel and each comprising
a pair of top and bottom dies matched with each other;

a mover which changes a relative distance between said
25 two die assemblies;

wherein the top and bottom dies in said two die assemblies are positioned to interpose the leads of the semiconductor device held on said holder and form the leads between them.

5 12. A method for forming leads of a semiconductor device with a lead forming apparatus having two die assemblies set in parallel and each comprising a pair of top and bottom dies matched with each other, the method comprising the steps of:

10 measuring a size of the semiconductor device before lead forming;

comparing the measured size with a normal value;

adjusting the positions of components in the lead forming apparatus according to a difference between the
15 measured size and a normal value; and

forming the leads of the semiconductor device by the lead forming apparatus wherein the top and bottom dies form leads interposed between them;

13. A method for forming leads of a semiconductor device
20 with a lead forming apparatus having two die assemblies set in parallel and each comprising a pair of top and bottom dies matched with each other, the method comprising the steps of:

forming the leads of the semiconductor device by the
25 lead forming apparatus wherein the top and bottom dies form

leads interposed between them;

measuring a size of the semiconductor device after the
lead forming; and

adjusting positions of components in the lead forming
5 apparatus according to a difference between the measured
size and a normal value.